DEPARTMENT OF THE ARMY
U.S. Army Corps of Engineers

CEMP-ET | Washington, DC 20314-1000 | ETL 1110-3-492

Technical Letter
No. 1110-3-492

12 August 1998

Engineering and Design
YEAR 2000 (Y2K) COMPLIANCE AND ACCEPTANCE PROCEDURES

# Distribution Restriction Statement

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1. Purpose. This engineer technical letter (ETL) provides guidance for including Y2K compliance requirements in all construction contracts and procedures for verifying compliance during acceptance testing.

2. Applicability. This ETL applies to all HQUSACE elements and USACE commands having military construction and design responsibility.

3. References.

a. Federal Acquisition Regulation (FAR), parts 39.002 and 39.106.

b. ER 1110-345-100

4. Distribution. Approved for public release; distribution is unlimited.

5. Background. Computer systems and equipment that contain embedded microprocessors may fail or operate improperly due to the Y2K computer problem. Many older hardware systems and software programs use only two digits to identify the calendar year, for instance, 98 instead of 1998. In the year 2000, computers, microprocessors, and programs based on a two-digit year identifier may interpret the year as 1900, or some personal computers may interpret 2000 as 1980. Modern buildings and facilities include many types of equipment and systems that could be affected by the Y2K problem because they rely on date and time calculations. These systems include, but are not limited to, elevator controls, heating ventilation and air conditioning (HVAC) controls, utility monitoring and control systems, fire alarm systems, electronic security systems, and many other related systems that control building environments or subsystems or are used for process control.

6. Guidance. The referenced FAR paragraphs define Y2K compliance and require that agencies ensure that all solicitations and contracts require information technology to be Year 2000 compliant if it will be required to perform date/time processing involving dates subsequent to December 31, 1999. The FAR defines Y2K compliance as accurately processing date/time from, into, and between the $20^{th}$ and $21^{st}$ centuries, including leap year calculations. Information technology means any equipment or interconnected system or subsystem of equipment, that is used in the automatic acquisition, storage, manipulation, management, movement, control, display, switching, interchange, transmission, or reception of data or information, and includes

computers, ancillary equipment, software, firmware and similar procedures, services (including support services), and related resources. To assure that all components, equipment, systems, and associated software, middleware, and firmware included in construction contracts are Y2K compliant, the following guidelines must be followed:

a. All construction contracts must contain Y2K compliance clauses in accordance with procurement policy at appendices A and B.

b. Existing construction contracts that do not have Y2K compliance clauses must be modified to require Y2K compliance in accordance with procurement policy at Appendices A and B if they contain any information technology.

c. Assure that for certain high technology electronic systems, such as electronic security and utility monitoring and control systems, that require a factory or field test, that a comprehensive Y2K compliance test is included in all factory and field tests.

d. High priority systems, such as fire alarm and other life safety systems, electronic security, environment and health systems, and mission critical systems, must be field tested for Y2K compliance prior to government acceptance. The contract shall include a requirement for the contractor to develop a Y2K validation test procedure and perform the validation test on each individual component or piece of equipment. In those cases where individual components or equipment are interconnected as a system or subsystem, the entire system or subsystem will also be tested. If there is an interface where time and date data is transferred to any other equipment or system, whether existing or contractor installed, the interface will be included in the system validation test. All test procedures require government approval prior toY2K validation testing, and a government representative must witness all testing.

e. Technical assistance for reviewing contractor submitted test procedures may be obtained from the appropriate center of expertise. A listing of centers of expertise, including points of contact, proponent, and mission area is on the USACE web site, which is located at:
http://www.usace.army.mil/inet/functions/cw/cecwe/coexpert/newcoe/coemain.htm.

If there is no center of expertise for a particular item or system, technical review assistance may be obtained from the Electronic Security Systems or the Utility Monitoring and Control Systems Mandatory Center of Expertise. Review assistance from the centers of expertise will be accomplished on a reimbursable basis. Contact the appropriate center well in advance of need date for schedule and budgeting purposes.

7. Technical Guidance.

a. Minimum Test Requirements. As a minimum, all equipment and systems will be tested to assure that they correctly calculate critical Y2K dates, including, but not limited to:

(1) 1 January 2000

(2) 29 February 2000 - Required because 1900 was not a leap year.

(3) 9 April 1999 - 99th day of the year, which may be 9999 in the Julian calendar, which may be interpreted as an error code.

(4) 9 September 1999 - In systems using day, month, year date format, date may be 9999, which may be interpreted as an error code.

(5) 10 January 2000 - The first date that requires 7 characters.

(6) 10 October 2000 - The first date that requires 8 characters.

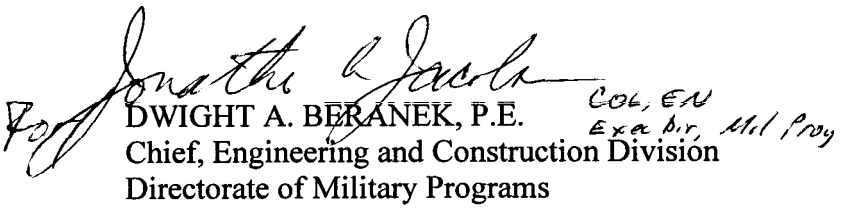
Each item and system will be tested to assure that the above dates are calculated correctly when they are encountered while the equipment is powered up and functioning properly, and that they will return to the correct date after the date is encountered and the equipment is powered down and restarted.

b. High Priority Systems. High priority systems are defined as those systems that affect safety, security, and the installation's ability to accomplish its core wartime mission. In all projects, electronic security, entry control systems, fire alarm systems, and other automated systems that are essential to facility operation are considered to be high priority systems. In medical projects, many other systems may be considered high priority systems because they could affect life safety, such as, emergency generators, uninterruptible power supplies, HVAC systems and controls, elevators, and lighting controls. Other high priority systems may include water supply treatment and distribution systems, and wastewater collection, treatment, and disposal systems.

8. Action. The guidance included in this technical letter shall be used for the planning, design, and construction of new and renovated facilities to incorporate Y2K compliant equipment and systems into all projects.

9. Implementation. This letter will have immediate application as defined in paragraph 6c, ER 1110-345-100.

FOR THE DIRECTOR OF MILITARY PROGRAMS:



DWIGHT A. BERANEK, P.E.
Chief, Engineering and Construction Division
Directorate of Military Programs

2 Appendices
App A - USACE Procurement Policy
App B - Department of the Army
Procurement Policy

Appendix A
USACE Procurement Policy

**DEPARTMENT OF THE ARMY**
U.S. Army Corps of Engineers
WASHINGTON, D.C. 20314-1000

REPLY TO
ATTENTION OF:
CEPR-P (715) 1 JULY 1998

MEMORANDUM FOR COMMANDERS/DIRECTORS, ALL USACE COMMANDS

SUBJECT: Construction/Architect and Engineer Contract Y2K Direction/Language

1. Reference:

a. CEIM-P, memorandum dated 20 April 1998, subject: "Year 2000" or "Y2K" and Infrastructure.

b. SARD-PP, memorandum dated 21 October 1997, subject: Assuring Year 2000 Compliance in Information Technology (IT) Contracts. (Enclosed)

2. In furtherance of the referenced memorandum la, all new solicitations expected to result in a construction contract shall, effective immediately, include the requirement for Y2K compliance. This requirement should, in most cases, be stated in Section 00800, Special Contract Requirements, of the contract.

3. The following language recommended for inclusion in Section 00800 of construction contracts is intended to standardize the Y2K requirement throughout the Corps:

Year 2000 Compliance:

a. In accordance with FAR 39.106, the contractor shall ensure that with respect to any design, construction, goods, or services under this contract as well as any subsequent task/delivery orders issued under this contract (if applicable), all information technology contained therein shall be Year 2000 compliant. Specifically:

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SUBJECT: Construction Contract Y2K Direction/Language

b. New Contracts. The contractor shall:

(1) Perform, maintain, and provide an inventory of all major components to include structures, equipment, items, parts, and furnishings under this contract and each task/delivery order which may be affected by the Y2K compliance requirement.

(2) Indicate whether each component is currently Year 2000 compliant or requires an upgrade for compliance prior to government acceptance.

c. Existing Contracts. For existing construction contracts which presently do not contain the requirement for Y2K compliance, use the statements in paragraphs a and b above, to effect any required modification to the contract.

d. Architect and Engineer Contracts. The following language is provided for requesting Y2K compliance to be included in all products:

"Year 2000 Compliance; the Architect/Engineer (A-E) shall insure that the hardware, firmware, software, and information technology systems separately or in combination with each other or other elements specified in the documents developed under this contract shall be year 2000 compliant in accordance with FAR 39.106."

4. The Y2K contract compliance language provided for IT supply and services contracts in reference 1 b remains in effect.

5. In addition, you are requested to include in your Commander's Year 2000 (Y2K) Readiness Survey Certification to the USACE, Deputy Commanding General, a list of all identified active contracts that do not, but should have included Y2K compliance language, and what actions are being taken to obtain compliance in those contracts.

6. Questions may be addressed to my point of contact for this action is LTC Martin R. Tillman at (202) 761-8641.

FOR THE COMMANDER:

/s/

BUNNATINE H. GREENHOUSE
Principal Assistant Responsible
for Contracting

Appendix B
Department of the Army Procurement Policy

**DEPARTMENT OF THE ARMY**
OFFICE OF THE ASSISTANT SECRETARY
RESEARCH DEVELOPMENT AND ACQUISITION
103 ARMY PENTAGON
WASHINGTON DC 20310-0103

REPLY TO
ATTENTION OF

SARD-PP 21 OCTOBER 1997

MEMORANDUM FOR SEE DISTRIBUTION

SUBJECT: Assuring Year 2000 Compliance in Information Technology (IT) Contracts

Because of the concerns expressed, throughout Army about whether or not the Government has appropriate and effective remedies in place to ensure satisfactory functionality of information technology equipment between the 20th and 21st centuries, we have developed language which should be incorporated into future solicitations for new information technology contracts. Language is also provided to modify existing information technology supply and maintenance contracts as deemed appropriate.

In addition to the above cited language, the use of warranties is permitted and encouraged if they are used in accordance with FAR Subpart 46.-7. This includes tailoring of appropriate clauses such as 52-246-19 and 52-246-20 to indicate that Year 2000 Compliance is warranted, and to state that the warranty period runs through a particular date (e.g., December 31, 2002). In addition to the remedies available under the Inspection and Acceptance clauses (i.e., rejection or pursuit of a latent defect claim), warranty clauses provide other remedies against contractors that furnish nonconforming information technology products or services. Warranties may be cost effective for many mission-critical systems, and the warranty clause may have a defect prevention effect that is far more valuable than any monetary recoveries that might ever be sought under such clauses.

Use of the solicitation language in conjunction with appropriate use of tailored warranty clauses should provide the flexibility and protection of Government's interests we need in procuring critical information technology products.

Point of contact for this action is Mrs. Esther Morse, (703) 681-1040.

/s/
John R. Conklin
Director
Procurement and Industrial Base Policy

Enclosure

# RECOMMENDED LANGUAGE FOR INCLUSION IN CONTRACTS FOR COMPUTER HARDWARE, SOFTWARE AND STEMWARE

For new contracts, the contracting office, when soliciting or awarding contracts for newly developed or commercial off-the-shelf products or systems consisting of hardware, software, firmware, middleware, or a combination thereof, shall use the following language, tailored as appropriate, in performance specifications, statements of work, or descriptions of tasks under task order contracts.

The contractor shall ensure products provided under this contract, to include hardware, software, firmware, and middleware, whether acting along or combined as a system, are Year 2000 compliant as defined in FAR Part 39.

For existing IT supply and maintenance contracts, the Contracting Office, when modifying an existing supply or maintenance contract for hardware, software, firmware, middleware or combinations thereof which will continue in use beyond December 31, 1999, shall use the following language, tailored as appropriate, in performance specifications, statements of work, or descriptions of tasks under task order contracts.

The contractor shall accomplish and document modifications necessary to ensure products previously provided, or products to be provided or maintained in the future under this contract, to include hardware, software, firmware, and middleware, whether acting along or combined as a system, shall be Year 2000 compliant as, defined in FAR Part 39.